

A NEW WEST INDIAN SPECIES OF *MIRAX* HALIDAY  
PARASITIC ON THE COFFEE LEAF-MINER  
(HYMENOPTERA : BRACONIDAE).

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Studies in the microgasterine genus *Mirax* have been difficult because of the paucity of available specimens. In connection with the preparation of my synopsis of the North American species<sup>1</sup> I had before me not more than twenty-five specimens of the genus, and of the six species recognized three were represented by only the unique types. Those species of which the habits are known are parasites of lepidopterous leaf-miners or bast-miners; but there has been no suggestion in the literature that any species might be considered of economic significance. It was with some amazement, therefore, that I recently received for identification from Mr. Francisco Sein, Jr., of the Agricultural Experiment Station of the University of Puerto Rico, fifty specimens of a new species of *Mirax* which had been reared from the coffee leaf-miner, *Leucoptera coffeella* Guér., on the island of Guadeloupe. I had not previously seen so many specimens of the entire genus. Subsequently an additional series of thirty-five specimens were received from Dominica, all likewise reared by Mr. Sein from *L. coffeella*. Observations have indicated that the species may be of definite value as a control agent of that coffee pest.

Very recently D. S. Wilkinson<sup>2</sup> described *Mirax leucopterae*, which was reared from a closely related species of *Leucoptera* at Bukola, Tanganyika, and suggested that *L. coffeella*, which also occurs there, is probably likewise attacked by the same parasite. The species reared by Mr. Sein in the West Indies is a quite distinct form, however, as was immediately apparent on the comparison with paratypes of *M. leucopterae* very kindly sent me by Mr. Wilkinson. It appears to be the first species of *Mirax* recorded from the West Indies.

***Mirax insularis***, new species.

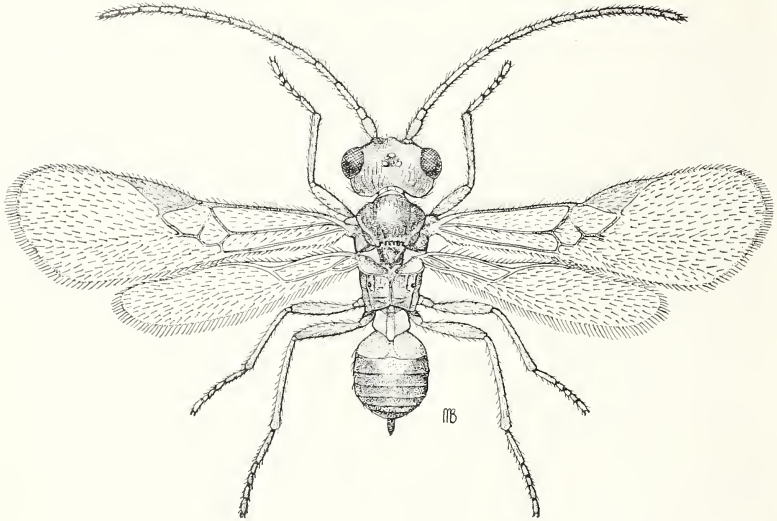
Immediately distinguished from *leucopterae* Wilkinson by the presence of a complete median longitudinal carina on the propodeum and a distinct scutellar sulcus. From *texana* Muesebeck, to which it appears most closely allied, it is readily separated by the less completely sculptured propodeum, the much shorter stub of the third cubital abscissa, and the mostly yellowish thorax.

*Female* (Fig. 1).—Length, 1.5 mm. Head slightly wider than thorax, smooth; eye large, at least as long as width of face, temple rounded; ocellular line

<sup>1</sup> Proc. U. S. Nat. Mus. vol. 61, Art. 15 : 10-12, 1922.

<sup>2</sup> Bull. Ent. Res., vol. 27 (3) : 385, 1936.

about as long as one side of ocellar triangle; median longitudinal groove of vertex absent; antenna about as long as body, first flagellar segment conspicuously longer than second. Thorax slightly wider than high; mesoscutum, scutellum, and pleura smooth; notauli distinctly impressed on more than anterior third of mesoscutum, wholly wanting beyond; scutellar sulcus deep, minutely



Female of *Mirax insularis*, new species. Drawn by Mrs. Mary F. Benson.

foveolate; propodeum with a complete median longitudinal carina and a few irregular transverse rugae either side of this; lateral margin of propodeum sharply carinate; first cubital and first discoidal cells not completely separated, the first abscissa of cubitus being more or less obliterated basally; stub of third abscissa of cubitus less than half as long as second abscissa. Abdomen about as long as thorax, smooth and shining; sclerotized plate of first tergite very narrow; plate of second tergite reduced to a very narrow longitudinal strip on basal half, strongly widened apically; ovipositor sheath shorter than posterior metatarsus.

Yellow or brownish-yellow varied with dark brown or piceous; head entirely yellow; mesoscutum and scutellum dark brown; venter of abdomen and first and second tergites pale yellow; third and fourth tergites laterally, and the following entirely, piceous; antennae brownish, a little paler basally; legs pale yellow; wings hyaline, stigma and veins light brown.

*Male*.—Agrees with the female in essential characters. The antennae are a little more slender and somewhat paler, and the abdomen is narrower, than in the female.

*Type locality*.—Guadeloupe, West Indies.

*Type*.—U. S. N. M. No. 52019.

*Host*.—*Leucoptera coffeella* Guér.

Described from 33 females and 17 males (including female type and male allotype) reared from *L. coffeella* by Francisco Sein in July, 1936, on Guadeloupe; and 22 females and 13 males reared by Mr. Sein from the same host, December 7, 1936, on Dominica. Paratypes are deposited in the British Museum and in the University of Puerto Rico.

## TRAP-LIGHT STUDIES ON LEAFHOPPERS BELONGING TO THE GENUS *EMPOASCA* (HOMOPTERA: CICADELLIDAE), WITH THE DESCRIPTION OF TWO NEW SPECIES.<sup>1</sup>

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### INTRODUCTION.

Much has been written in regard to the response of insects to light, whether they are positively or negatively phototropic, and their reaction to lights of different colors and intensities, correlated with the influence of temperature, wind, and various other environmental factors. Many have experimented with the use of trap-lights for attracting insects under these varying conditions. With some species trap-lights seem of importance in ascertaining occurrence and abundance, while with others they appear to have little value. Upon occasion, species which might otherwise be considered rare in a given locality may be procured more readily in this way, possibly by attraction to light or because of nocturnal habits or apparent inactivity during the day. Also, by this means, species new to science have been discovered (7, 9). The general impression, however, seems to be that trap-lights are not of much practical value in the control of insects, although references in the literature to their use, both for exploration of fauna and in insect control, are becoming more frequent (6). The data presented in this paper show that the use of trap-lights in connection with a practical research problem may be of considerable value, especially when correlated with data obtained in other ways.

Two trap-lights were operated over a period of 4 years, 1932-1935, inclusive, at the Arlington Experiment Farm, Arlington, Va., for the purpose of collecting species of leafhoppers belonging to the genus *Empoasca*. The data presented

<sup>1</sup>The writer is greatly indebted to Dr. F. W. Poos, under whose direction this work has been done, and to Mr. P. W. Oman for suggestions and criticisms in the preparation of this paper.